# TABLE GRAPE AND VINEYARD FERTIGATION

## GENERAL

Plant density of vineyard ranges from 1000 to 10.000 vines per ha. The yield goes from 5 to 35 T/ha, depending on plant site, cultural conditions and final use (wine or human feeding). In order to maintain quality, especially for the wine grape, the grower has to maintain a perfect balance between different fertilising factors responsible for quality:

* To control the plant vigour through, in else, the nitrogen fertilization. Excess in nitrogen may improve the risk of berries lost, reduces the colour component (anthocyans), and increases the sensitiveness to diseases (grey rot or Botrytis cinerea), and delays the maturity…

* To respect the balance in the other elements, for instance, to avoid excess of $K_2O$ and preserve the magnesium content. The report between $K_2O$ and MgO shouldn't exceed 3. Potassium is a fertilizing element responsible for sugar accumulation and frost resistance (osmotic pressure regulation). It enhances the plant resistance against fading.

To avoid the bunch drying out, it is recommended to spray magnesium solution directly on the bunch, from the beginning of the maturity phase (to be repeated once or twice, in case of necessity). In some occasion, post-harvest fertilisation is needed before the leaf shedding, in order to reconstitute the nutrient reserve and their accumulation in wood.

## NUTRIENT UPTAKE/REMOVAL (in normal growth conditions)

| Element | Yield | N | $P_2O_5$ | $K_2O$ | MgO | S | CaO |
|---|---|---|---|---|---|---|---|
| In kg/ha | 7/25 T/ha or 40/60 hl/ha | 22 - 84 | 5 - 35 | 41 - 148 | 6 - 25 | 4 - 8 | 28 - 204 |

*(Source : IFA; la fertilisation de la vigne, Jacques DELAS, France, 2000)*

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# FERTIGATION ADVICE

## Wine grape

Expected yield: 5000 to 8000 kg/ha of fruits or 40 to 60 hl/ha- fertilisation advice: 40 kg N/ha – 10 kg $P_2O_5$/ha – 60 kg $K_2O$/ha

| | Phenologic stage | From flowering till mid-august (end of fertigation 1 month before harvest) | | |
|---|---|---|---|---|
| Irrigation | Number of days | 90 | | |
| | Fertilising elements | N | $P_2O_5$ | $K_2O$ |
| | Requirements in fertilising elements | 40 | 10 | 60 |
| | NPK ratio | 4 | 1 | 6 |
| | Formulation | 20*5*30+TE | | |
| | Number of kg/ha | 200 | | |
| | Number of kg/ha/day | 2,2 kg (or 15,5 kg/week) | | |

Foliar treatment: see SUPREMO L fertilization program.

## Table grape

Expected yield: 40 T/ha – fertilisation advice: 160 kg N/ha – 40 kg $P_2O_5$/ha – 240 kg $K_2O$/ha

| | Phenologic stage | From bud break till mid-august (end of fertigation 15 days before harvest) | | |
|---|---|---|---|---|
| Irrigation | Number of days | 135 | | |
| | Fertilising elements | N | $P_2O_5$ | $K_2O$ |
| | Requirements in fertilising elements | 160 | 40 | 240 |
| | NPK ratio | 4 | 1 | 6 |
| | Formulation | 20*5*30+TE | | |
| | Number of kg/ha | 800 | | |
| | Number of kg/ha/day | 6 | | |

In case of phosphorous deficiency, start fertigation 10 days before flowering with 100 kg of 15*30*15 + T.E, during 10 days or 10 kg/ha/day

Yield deviation : By 10 T/ha of deviation for table grape, fertilisation advice will be reduced or added of 200 kg of 20*5*30 + T.E.

Foliar treatment: see SUPREMO L fertilization program.

Notice: Formulae and recommended doses correspond to the plant average needs, cropped on well-balanced soils. They must be adapted to the soil, the climate, the cropping conditions, the variety, the water management and the yield target. Fertigation schedule indicate daily fertilizer requirements per ha. In case of irrigation in time intervals other than daily, the amount of fertilizer to be given has to be increased proportionally. The base dressing (organic and/or mineral) should be deducted from advised recommendations.

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